DOCUMENT RESUME

ED 316 966 EC 230 022

AUTHOR McDonald, Geraldine
TITLE Joining In: Children and Learning. A Study of the Mainstreaming of Children with Educational Handicaps into Kindergartens and Playcentres. Studies in Education, No. 45.
INSTITUTION New Zealand Council for Educational Research, Wellington.
REPORT NO ISBN-0-908567-64-2
PUB DATE 87
NOTE 58p.; Support provided by the International Year of Disbled Persons Telethon Trust. For other booklets in this series, see EC 230 021-024.
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Check Lists; *Classroom Observation Techniques; *Disabilities; *Evaluation Methods; Foreign Countries; *Mainstreaming; Preschool Education; Records (Forms); *Student Evaluation; Student Records
IDENTIFIERS *New Zealand

ABSTRACT

This study describes the development of a Learning Event Checklist and a running record of children's behavior to help in assessing and mainstreaming children with disabilities. The sample consisted of 138 children between the ages of 2 and 6 years, mostly males, in special education preschool programs. The running record was designed to assess each child's potential for using the preschool environment for learning, by determining and classifying immediate sources of learning for individual children. Observed learning sources in rank order of frequency were responding to an adult, interaction with objects, social conformity, observation of other children, responding to a child, asking an adult and asking a child. Implications of the project for mainstreaming are discussed. Instructions for use of the Learning Event Checklist are provided, with examples from the running records. (PB)

****
* Reproductions supplied by EDRS are the best that can be made *
* from the original document. *
****

ED316966

Joining In:
Children and Learning

"PERMISSION TO REPRODUCE THIS MATERIAL HAS BEEN GRANTED BY

K O Peckens

TO THE EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)."

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Geraldine McDonald

EC 230 172

Joining In : Children and Learning

Geraldine McDonald

A study of the mainstreaming of children with educational handicaps into kindergartens and playcentres

Studies in Education, No. 45

New Zealand Council
for Educational Research
Wellington
1987

New Zealand Council
for Educational Research,
P.O. Box 3237,
Wellington,
New Zealand

© NZCER, 1987

ISSN 0111-2422
ISBN 0-908567-64-2

This study was carried out with the assistance of a grant of $13,000 from the International Year of Disabled Persons Telethon Trust.

The cover design and illustrations are by Robyn Belton.

Other NZCER books in this series on the mainstreaming of young children:

Joining In: The Summary
Joining In: Teachers and Parents
Joining In: Children Observed

All of the above titles will be published during 1987/88; write to NZCER Distribution Services, Box 3237, Wellington, for details.

Printed by Hillary Court Print Ltd., Lower Hutt.

Contents

Introduction 5

Learning and the Environment 7

Observing Learning 9

Models of Learning 11

The Study 14
- Sample 15
- Method 15
- The Running Record 17
- Observing Ways of Learning 18
- Reliability 20

The Sources of Learning Observed 21
- Responding to Adult Instruction 22
- Interaction with Objects 23
- Social Conformity 27
- Observation of Other Children 29
- Responding to Other Children 31
- Asking Adults 32
- Asking Children 33
- Disabilities and Ways of Learning 35

Implications for Mainstreaming 37
- Discussion 39

The Running Record and Learning Event Checklist 42
- Instructions for Use of the Learning Event Checklist 42
- Examples from the Running Records 46
- Analysis of Mat Time 51

Conclusion 53

References 54

People Involved in the Project 55

Tables

Table 1 Categories of Disability of Mainstreamed Children 16

2 Rank Order of Ways of Learning Used by Mainstreamed Children 21

3 Ways of Learning in Relation to Functional Disability 35

4 Number of Sources of Learning Used by Mainstreamed Children. 36

Introduction

A policy of mainstreaming means that teachers are likely to be teaching children with varied disabilities. Therefore, integrating children with educational handicaps into normal schools and preschools creates a need for appropriate ways of assessing such children. This publication describes the development of a running record and Learning Event Checklist, and the results from their use in a study of 138 children mainstreamed into kindergartens and playcentres.

The Learning Event Checklist is based on the familiar idea that children learn from their environments. But children make use of different aspects of the environment in order to obtain the information that serves their learning, and they select their sources depending upon such factors as their level of development, their disability (if any), their cultural patterns of learning, their personal confidence, and the opportunities offered by the environment.

The Learning Event Checklist is suitable for use by teachers and teachers in training. It will help them to make professional judgements on educational needs and on treatment goals and methods for individual children.

Learning and the Environment

In 1984 when I went into preschools[1] to prepare myself for a study of children mainstreamed into kindergartens and playcentres I recorded the children's behaviour as I observed it. These are some extracts from my observations.

(a) A girl gazes at a group of children jumping off packing cases, waits until they go away, then climbs the box alone and announces to whoever is listening, 'I jumping'. She jumps up and down in the air, landing, however, on the box and not on the ground.

(b) A girl joins a group playing 'The Grand Old Duke of York' and, holding on to the hand of an adult, watches the others to find out what she should do. She tries with some success to follow the other children.

(c) A boy is invited by a photographer to have his photograph taken. He bursts into tears and runs away. Later he goes to the dough table which is right next to the photographer and, while playing with the dough, looks up and says, 'Hello' to him. That achieved, he goes to watch the other children being photographed and awaits his turn.

(d) A group of children co-opt another child into playing in the family corner. A make-believe game follows about mothers. The co-opted child accepts the roles suggested by the other children.

(e) The teacher sees a boy banging at dough and shows him how to roll it out. The child follows her instructions and manages to flatten the dough by rolling rather than banging it.

(f) A girl is playing alone in the family area. She puts on a man's

1. The term 'preschool' in this context refers to kindergartens and playcentres in New Zealand.

shirt, does up the buttons after considerable effort and then seeks an adult to show her the results.

These observations of special group children made during the pilot phase of the larger study reported in the *Joining In* series of publications illustrate what will be referred to as *learning events*. These are events in which children can be observed attempting something new and being at least partially successful in adapting their behaviour. The children may or may not be completely successful. However, when they are, they are often conscious of the fact and announce their achievement to others, as in the first example (a) above, in which the girl on the packing case announced to whoever might be listening, 'I jumping.' Her teachers later told me that for some weeks they had noticed her trying to pluck up enough courage to climb on the boxes.

In (b) the girl's chief source of information about the singing game came from what the other children were doing. Only after observing them did she try to follow suit.

In (c) the boy overcame his initial fear of the photographer and, by taking part in a familiar activity situated nearby and later saying 'hello' to the photographer, gave evidence of greater courage and improved self-control.

In (e) a child who had previously been unable to use the rolling pin effectively was taught by an adult how to roll out dough.

In (f) a girl taught herself how to master the skill of doing up buttons. After she had done up all the buttons on the shirt she showed an adult the result.

The learning events described above include learning in the physical, intellectual, social and emotional domains. They include sequences of different kinds. In one, an adult was an essential part of the learning event. In another, other children acted as instructors. In the last example the child taught herself. These descriptions of behaviour suggest that the children had goals they wanted to achieve. In the first example it seems that the child might have been wanting to jump off boxes for some time. The child who learned to roll out dough seemed to arrive at a goal in negotiation with an adult who first showed the child how to perform the action of rolling. There are differences in whether the goal is suggested by someone else – an adult or another child – or is developed in response to some object or event which captures the child's interest.

I have used the word 'instruct' deliberately rather than other words, such as 'suggest' or 'explain'. The verbal form can vary, but if children are going to learn, then whatever an adult or younger person tells or shows a child must contain information which acts as an instruction to the child regarding how to adapt his or her behaviour to reach new goals.

Observations of events, such as the ones I have described, led to the development of a checklist for learning events.

Observing Learning

Although it is the role of a teacher to encourage learning, the actual process, that is, the changes that take place within a child and which enable the child to behave in new ways, cannot be observed directly. Nevertheless, we all know that human beings learn and we take as our evidence the nature of the child's behaviour. For example, we may notice that a child uses new words, or learns to ride a tricycle, or manages to solve a puzzle. It is not impossible to decide when a child has made some kind of advance in skill, knowledge, or understanding of the social world, even though we may find it difficult to pinpoint the actual moment, or moments, in which the inner changes occur.

For teachers of young children, and especially those who teach children with some kind of disabling condition, it is very important to know whether or not the children are learning. The traditional approach is to ask, '*What* has the child learned?' and, to test this, a teacher may ask a child questions in order to assess the child's knowledge, or the teacher may use a developmental guide. Such methods depend upon a child being able to respond to questioning or to the child happening to display the behaviour recorded in the developmental list.

Teachers and parents may be just as interested in knowing not only *what* a child has learned but also *how* a child is learning, or

even *whether* a particular child is able to make use of a particular environment – say kindergarten, playcentre or junior school classroom – for his or her learning. This second approach to the study of learning, the *how* and the *whether*, can provide information that is directly useful to teachers in planning programmes for individual children. It can be based on the observation of any range of behaviour exhibited by the child over a period of time and does not depend upon the observation of particular skills or abilities.

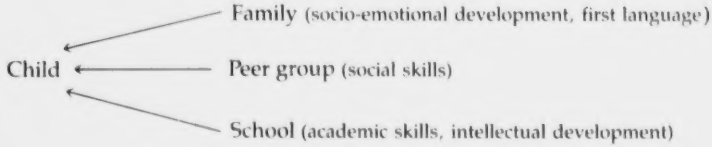
In some circumstances it is easy to *observe* children gradually adapting their behaviour towards a goal. In others, children appear to wait until they understand the task and then act without error. In the latter circumstance we may infer that the child had a goal. Sometimes the child appears to have developed a goal some considerable time before the target behaviour appears and evidence for this can often be *recalled* by observers. Sometimes a child exhibits an apparently new form of behaviour immediately after having been shown by someone else how to do something. Learning events of this kind may appear, on the surface, to be trivial episodes, but in each case the child develops new and more advanced ways of behaving than had been previously noticed. Young children learn through the accumulation of such seemingly trivial learning events. Although such behaviour can be treated as evidence that some learning has occurred in the children observed, it does not tell us exactly when that learning occurred, precisely what brought it about, or how much was learnt.

Some children make a point of telling others about their new achievements. For other children it may be necessary to make careful observations of successive adaptations of behaviour to reach a goal. Or a child may have to be observed over a considerable time because something that the child experiences at one time may not bear fruit until some weeks later. Teachers and parents are often good sources of information about learning that seems to be connected to events in the past and what, in any particular instance, seemed to trigger the new behaviour.

My own goal, after I had observed many children, both disabled and not disabled, in preschool environments, was to develop a model of learning based on an environmental or ecological theory of learning. I hoped that such a model would help teachers and parents to understand *how* a child made use of the environment for learning and *whether* a child did so.

Models of Learning

Below is a familiar – but, I believe, incorrect – model of learning. According to the diagram, each agency – family, peer group, school – specializes in a particular type of learning.



On this view socio-emotional development and first language come mainly from the family, social skills from the peer group, and intellectual skills from school attendance. Even though we may not all accept this model as a description of the sources or agencies of learning, nevertheless we often act as though it were correct. For example, the school frequently expects children to have acquired sufficient language skills at home to be able to take advantage of the intellectual skills the school has to offer. Then again, the school may prefer the home not to teach 'school work'. Mothers frequently say that they send their children to preschool in order that they may learn to get on with other children; that is, parents expect social rather than intellectual skills to be learnt from the peer group.

Here is a diagram of another familiar idea, this one about the process of teaching:

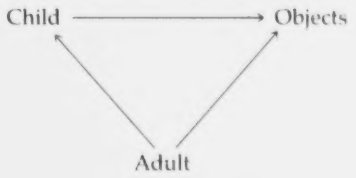
This is a 'one-to-one' or tutoring model, and our thoughts on teaching often revolve around this kind of relationship between

teacher and pupil. Teachers frequently say that their work would be better if there were more opportunity for 'one-to-one'.

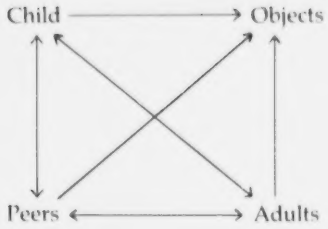
I think there are better ways of looking at learning. The model of learning used in the present research is an 'additive' one which looks at the configurations or patterns of the sources of learning. Each configuration is added to earlier ones. This is the first part of the model:

This is a very simple diagram of the child's 'acting upon objects', the sensorimotor learning described by the Swiss scholar, Jean Piaget. He believed that this form of learning applied especially during the first 18 to 24 months of life. An excellent summary of Piaget's theory appears in Margaret Donaldson's *Children's Minds*. Another very useful book for those interested in how children think and learn is *Young Children Learning* by Barbara Tizard and Martin Hughes.

The next diagram illustrates another configuration or patterning:



This represents learning in which an adult, as a mature member of the culture, 'socially constructs' the child's learning. It is a pattern of learning that has been described by the Russian psychologist, L.S. Vygotsky. Such learning can readily be observed in children who do not yet understand much speech. But do the preceding models tell us all the ways through which children learn? The next illustration adds the influence of peers to the young child's learning and combines all the sources:



This is a configuration of all the environmental sources which can contribute to a young child's learning. Apart from the objects, each source of learning in the configuration, including the child itself, can be the initiator of a learning event or the respondent in a learning event. In addition, there may be interaction among the sources of information. Thus, learning in the intellectual domain, the social and emotional domain, or the physical domain can be triggered off, encouraged and sustained by self-initiation, by adults, by peers, by objects that the child encounters, or by any combination of these. On this view one type of learning does not replace another. Learning through interaction with objects is a method which may involve little foresight or pre-planning. A child may discover an object and learn by manipulating it. This method may be developmentally prior to other forms of learning but it continues as a way of learning throughout our lifetime alongside more complex forms.

The 'additive' model is holistic. It does not isolate particular elements, but takes into account all four aspects of a learning environment. The model can be extended in various ways. The adult or adults may include elders; the 'peers' may be assorted children from one family; the child may be a girl or a boy who is Maori, European, Greek, Italian or born into some other culture. The objects may be anything external to the child that can be seen, handled, smelled, touched or manipulated, or listened to. A child may use its own hands or feets or other parts of the body as objects. 'Child', 'objects', 'adults', 'peers' are each only a summary of a source of learning which may itself be extensively varied.

The Study

In 1973 the Department of Education initiated a scheme in which 'the Director-General of Education could authorize the establishment of a special pre-school group at a kindergarten or playcentre to provide supplementary teaching for a group of educationally handicapped children'. This scheme greatly extended earlier provisions of a similar kind for young children who were deaf. The educationally handicapped group was to be no smaller than three children and no larger than five. A suitably qualified teacher was to be appointed and employed by the Department of Education. The special groups of educationally handicapped children were to operate on three half days a week. The admission of children to the groups was to be controlled through the recommendation of the Psychological Service of the Department of Education or, in the case of deaf children, the adviser on deaf children. Both the Psychological Service and the advisers on deaf children were to have a continuing responsibility to provide guidance to the staff of the preschool centres involved and on the teaching programmes appropriate for each child. There were provisions for the Education Boards to contribute towards the cost of transporting children to the special preschool groups. The scheme was intended to integrate or mainstream children with special needs into kindergartens and playcentres.

In 1983 the IYDP Telethon Trust invited NZCER to submit a proposal for a national study of these integrated special groups. NZCER's subsequent application to the Trust set out the purpose of a study as follows:

> To determine what integration is in the special groups and how it is working for individual children.

Kindergartens and playcentres operate developmental programmes in open plan settings and with a team of teachers.

Sample

The sample consisted of all those children integrated or mainstreamed into preschool groups for children with special educational needs, apart from those who were absent on the day of observation. At the time of the study, in 1983–84, there were 39 such groups in operation throughout New Zealand. The sample observed consisted of 138 children whose ages ranged from under 3 years to over 5 years. There were twice as many males as females (91:47). The children's special needs ranged over virtually the full range of disability and included immigrant children who did not yet use English. There were children with spina bifida, children with profound hearing loss, and children who showed autistic types of behaviour. There were Down's Syndrome children, children with visual disabilities, and many others with disorders of some aspect of development. Table 1 shows the categories of disability arranged according to the broad categories of functioning – physical, intellectual, social, and emotional. Such a classification always has a degree of arbitrariness but the table shows what type of classification was used for this particular study.

A running record, accompanied by a checklist based on the model of learning, was designed to assess whether each child was capable of using the preschool environment for learning. The particular purpose was to determine the immediate sources of learning, and their types, for individual children. It was not intended to record how frequently such learning occurred.

A sample of the special group children (77), matched with a sample of 77 children drawn from the main roll, was also observed by means of a structured observation schedule. In addition, interviews were held with teachers, supervisors and parents. In this present report only the running record and Learning Event Checklist are discussed.

Method

In every preschool each child in the special group was observed in turn and his or her particular behaviour was recorded in writing. One of the reasons for the observation was to study the way the child functioned in the preschool. Therefore, we made the observations as long as we could. But, in order to spread the observations

Table 1
Categories of Disability of Mainstreamed Children

	Children
Physical	
Hearing impaired	22
Vision impaired	4
Physical disabilities involving the limbs	7
Spasticity and sensory defects (more than one physical handicap)	1
Intellectual	
Developmental delay, Down's Syndrome, general intellectual retardation	29
Multiple handicaps with intellect as a major component	4
Organic growth disorders, retarded physical and intellectual growth	8
Mute conditions, severe speech delay	20
Articulation problems, mispronunciations but syntax intact	3
Social and Cultural	
English as a second language	3
Delayed development arising from economic and social conditions	7
Failure to understand and respond to the social environment (e.g., autistic symptoms)	3
Functional disability from cultural difference	6
Emotional	
Fears and phobias	10
Hyperactivity	1
Uncontrollable behaviour (e.g., tantrums, destructive behaviour)	9
No data available on child's condition	1
	138

over the morning and to ensure that the variable numbers of children were observed equally for the purposes of the Learning Event Checklist, we had a minimum schedule for the pattern of observation. The first recording started when the first child had arrived.

The duration of the recording was determined by when the child completed the particular activity in which it was engaged when the recording began. When children appeared to have settled into a particular activity for a lengthy period the record was stopped at some natural break in the proceedings, for example, when a child who had been pouring water from one container into another at the water trough changed to filling the trough with a hose. As soon as an episode ended the observer moved to the next child. When each child in the special group had been observed once, the observer repeated the cycle and the children were observed again in the same order. A minimum of 6 observations were made of each child over a three hour period. Some adjustment was made when children were late in arriving but otherwise each child was observed at least once in each half hour.

A record of each child's behaviour was made by one of the two observers who visited every preschool. Three different people acted as observers for the record (although one person made only one record) and they observed in different preschools. In any one preschool only one person filled in the record and Learning Event Checklist. However, two of the children in each special group were observed over the same period of time by a second observer who used a structured observation schedule. The reliability of the checklist results based on the running record observations will be discussed below.

The Running Record

The running record had four aims:

1. To provide descriptive information on each child's behaviour during the preschool session.
2. To observe each child in order to determine his or her particular difficulty, if any, in functioning within the preschool environment.
3. To look for evidence of learning events or instances of a child's ability to learn in the preschool environment in any of the ways set out in the model of learning described above.
4. To determine what sources of learning each child showed evidence of being able to use.

The present account is concerned with aims 3 and 4.

Observing Ways of Learning

The theory behind the Learning Event Checklist which accompanied the running record is that young children's learning is based on their sources of information, and this information comes mainly from the child's immediate environment. The checklist followed the model of learning used for the study and illustrated in the diagrams in the previous section.

This is the checklist:

1. *Child observes another child/children and later reproduces a similar action or activity.*
   For example, a child, like the girl who watched other children climb on and jump off boxes, may watch what other children are doing with play objects and later put his or her understanding into practice; or a child may learn an action song by following what other children do.

2. *Child asks another child for instructions.*
   For example, a child setting a table in the family area gets a teapot out of the cupboard, does not know where to put it, and asks another child, 'Where does this go?'

3. *Child responds to another child's instructions.*
   For example, children may be playing co-operatively and one child says to another, 'You be the Mummy out shopping', and the child adopts the role of 'Mummy' within the co-operative play situation.

4. *Child asks an adult for instructions.*
   This category was restricted to events in which a child sought adult help in how to do something. Examples are: how to complete a puzzle, how to fill a container from a hose by turning on a tap some distance away, or how to use correct verbal expressions.

5. *Child responds to an adult's instructions.*
   This was interpreted as 'instructions' regarding how to make things, solve problems or develop skills. When the child in the example given earlier responded to the teacher's words and actions regarding how to roll out dough, he ceased to bang it and succeeded in rolling it. 'Instructions' means that

the adult conveys 'know-how' to the child, either by means of action or speech, or both.

6. *Child learns through interaction with objects without instructions.*
Examples are: pouring water from a large container to a smaller one, and gradually adapting behaviour to stop pouring when the smaller container is full. Learning to do up buttons on clothing is another example.

7. *Child learns social conformity.*
Examples are: sitting down to eat, stopping running around indoors when asked to. This kind of learning is not always easy to observe in progress. It arises mainly from observation and verbal instruction, or explanation of social rules. Children often appear to have 'caught' rather than to have been 'taught' conformity. Moreover, it may be learnt during the first contact with the preschool. Nevertheless, it is an important category of learning and one which is of concern to parents and teachers alike. It is about how and whether children learn to 'behave themselves' in any given setting.

Social conformity is defined by what is learned rather than its source. The other parts of the model identify sources of learning. The immediate sources of social conformity are always people — either adults or children. It is people, not objects, that show or tell a child how it is expected to behave.

If a child is sitting down without being told to do so, but just because he or she follows the other children, is that evidence of understanding a rule about sitting down? What we actually recorded were instances in which adults and other children sought to bring about social conformity in a particular child and were successful. Perhaps our records of this were really about teaching rather than about learning! The sources of learning, peers and adults, are the same as in other kinds of learning, but the learning is characterized more by the adoption of someone else's goal and the topic of the instruction. Learning through observation is a separate category in the Learning Event Checklist. Its effect in the learning of social rules may not, however, have been captured in our study.

The observers made their assessment of learning on the basis of the criteria set out in the 7 categories of behaviour. These

categories will be explained in more detail in the next section where the results from the study are given. They were not arranged in the checklist in any particular order.

Two further criteria guided the observers' judgement of learning:

(a) The behaviour should be appropriate to the instruction, object or situation. Broadly speaking, it would be goal directed.

(b) The behaviour was new (judging by the child's reaction to it, or by information from the teacher or some other source).

Had the subjects been adults the assessment of learning would have been a much more complicated matter. Young children, however, are in the process of learning new things. Their behaviour is more transparent than that of adults, and a preschool presents them with a wide variety of situations and activities which are unlikely to be duplicated in the home environment and which are, therefore, largely new.

The checklist selects examples of learning which are positive and which are in line with the general goals of preschool education. Of course, the running record as a whole captured instances in which the child was acting negatively, such as refusing to take part in a particular activity. This probably indicated that the child had learned to dislike the activity, and it is certainly important for a teacher to know this. But the basic philosophy of preschool education is that a child should take part in a wide range of activities. These activities are the learning opportunities of the preschool environment and that was what the checklist recorded.

Reliability

The two principal observers observed in different preschools and there was no opportunity to check each other's observations at the time they were recorded. Therefore, all the running records of episodes of behaviour were later examined for consistency in coding of learning events. The observers read each other's notes of the child's behaviour and each decided whether she would have made the same decisions. Disagreements were discussed until agreement was reached. The pattern of the items each observer had checked was also compared. The first observer seemed to have noted more examples of self-initiated learning. The observers discussed individual judgements in order to make sure that this difference was

not a result of observer bias. They checked that they were using similar criteria and came to agreement on particular instances in which opinions, at first, differed. When these checks had been carried out, alterations were made to the coding where it was agreed that these should be made. The results from the checklist were then entered into the calculations for study.

The Sources of Learning Observed

The sources of learning observed are recorded in Table 2 which shows how many children in the samples were observed to show behaviour in each category. The table does not record how many times a child was observed behaving in the way described. It is a record of the sources of learning that each child showed his- or herself capable of using, and as such is a measure of competence rather than performance.

Table 2
Rank Order of Ways of Learning Used by Mainstreamed Children

Source of Learning	*Children Observed (N=138)*	*%*	*Rank*
Responding to an adult	114	83	1
Interaction with objects	102	74	2
Social conformity	60	43	3
Observation of other children	58	42	4
Responding to a child	40	29	5
Asking an adult	27	20	6
Asking a child	12	9	7
No learning observed	3	2	8

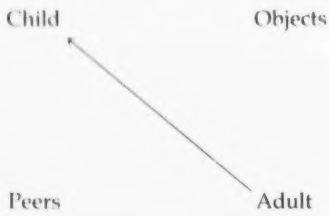
There were three children who were not observed in any learning event. In other words, the answer to *whether* they were learning

at the time over which they were observed appeared to be *no*. All other children were observed using at least one source of learning in the checklist in at least one learning event. The table also answers the *how* question. The *how* categories will now be discussed in their order of rank.

The most common mode of learning observed was responding to an adult's instructions.

Responding to Adult Instruction

This was defined as response to instructions regarding making things, solving problems, developing skills, or answering questions correctly in teaching situations. 'Response' was defined as some observable and appropriate change in behaviour as a result of the instruction. To identify such a response as a learning event, there was a further check to determine whether the response was new. Most children responded to at least one adult in the kindergarten or playcentre. This adult was generally the special group teacher. This very common learning situation can be pictured as part of our learning model. In this situation the teacher initiates the learning event, as the arrow shows. The adult is the source of information for the learning.



Some children avoided the teachers and took 'orders' only from other children. This latter pattern was observed also among children without disability in kindergartens with a high proportion of Maori and Pacific Islands children. In these kindergartens children played in large groups, especially when they were outdoors, while in centres with a predominantly non-Maori population children played alone or in small groups.

"You'll get on much better if you move this foot, then that foot."

Some children chose to ignore the suggestions or instructions that adults gave them and others showed signs that they did not understand them. Despite these exceptions, 114 of the 138 children were observed, on at least one occasion, to successfully follow the instructions of an adult with regard to a new kind of behaviour. On a few of the observation records we did note that a particular child had 'only just' responded appropriately to an adult's instructions.

Interaction with Objects

Interaction with objects is the most basic form of learning. This was nearly as popular a way of learning as responding to adults. Preschool equipment is designed to tempt children, to extend them and, in many instances, to help the child to learn from his or her own mistakes. It was Maria Montessori who demonstrated the great value of teach-yourself equipment for young children. However, it is the child who discovers how the objects work and the

child who, through his or her own actions, discovers the procedures involved in the use of the object. This way of learning can be represented by the following part of the learning model. Although the child is engaged with an object, adults and peers are also present and must be represented because they constitute an audience for the child's performance.

Child ——————→ Objects

Peers Adults

One hundred and two children were observed in learning events of this kind on at least one occasion but some children seemed unable to take advantage of this source of learning. There were those who stood away from the activities, too timid to approach them, and others who rushed around hitting other children, knocking things down and never giving themselves time to come to grips

with a puzzle, or to turn the pages of a book, or even to roll out dough — that most soothing, non-demanding activity. A few children seemed too tired to play actively. Perhaps they were sickening for something or were on medication which made them drowsy. One child was tired after a therapy session he had attended before the kindergarten session started.

On the other hand, children who were physically disabled, often unable to move to an activity or even to control their hands with any degree of skill, would eagerly paste things together, or paint or pour water, once an adult had given them some help. An occupational therapist brought special equipment to one kindergarten — a small seat with a supporting back so that a cerebral palsy child could sit in the sandpit with other children without getting sand he could not remove inside his clothing, and a leaning board to which he could be strapped so that he could use all the things like dough and collage material that are arranged on tables. Outside he had another chair into which he could be strapped and which was high enough for him to reach the water in the water trough. A teacher had brought a beach umbrella to shade him when he played outside. The teachers said that with this kind of equipment they could help the child to take part in almost all the activities available to the other children. When it was time for music and movement someone could carry him and dance around. This child could not interact with the objects in the kindergarten without aids and without intervention from an adult, and so his learning configuration looked like the diagram on page 26. The broken line is to suggest the supporting role of the adult.

A similar pattern appeared with other children who were dependent upon adults. Some children did not appear to understand what was required of them unless an adult helped, or they lacked sufficient confidence to branch out on their own. One boy would work happily so long as the special group teacher was nearby, but when she moved he left whatever he was doing and appeared quite lost.

It is generally the social and emotional factors rather than physical skill that constitute the barriers to using the objects of the preschool as sources of learning. The children who lacked confidence were often helped by teachers to do the things that the other children were doing. For example, a rather timid little girl was fascinated with what other children were doing on a plank balanced across a climbing frame. She would go away for a while, then return to

stare at the others as they walked confidently across the plank. One of the teachers came up, took her by the hand and helped her to join in. Often, however, children did not need to be physically led to an activity; it was sufficient for an adult to be nearby. The adult's presence may release the child from its inhibitions and allow it to learn from the example of other children.

"This is the first time he's had the courage to do that."

The adult's role is supportive but indirect; yet learning may not take place unless she is there. It is as if she can take over a child's emotional burden and free the child for other things.

Social Conformity

There are three kinds of social conformity that can be observed in kindergartens and playcentres.

(a) There are the routines of the preschool, such as sitting down to eat, washing hands, wearing waterproof aprons for painting, and putting possessions in lockers.

(b) There is adult control of behaviour to make it acceptable to others; for example, rules, such as 'no shouting', 'share equipment', 'be polite', 'say please', 'no rushing around indoors'.

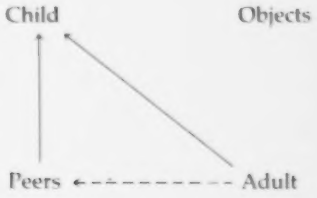
(c) There is the pervasive control by children of other children who comment on undesirable behaviour. ('You talk funny'), or who stake out a territory ('Go away, this is my place'), or who claim possession ('This is my truck').

Many of the routines of the kindergarten or playcentre are never explicity taught to incoming children. New children observe the routines already established and other children help to maintain these rules.[2] But from time to time, a teacher will see that a child is not conforming to a rule. If a child obeyed a kindergarten teacher or playcentre supervisor who said, 'Take your apron off now you've finished your painting', and the child did so, we credited that child with having learned the rule at some stage, not necessarily at that moment, even if he or she might later disregard it. We also assumed that it was a preschool rule and not one brought from home. Similarly, if children were observed obeying the commands of other children to conform in some manner, or they lowered their voices if a teacher asked them to do so, we counted this as learning to conform to the social norms of the kindergarten. Sixty children were observed in this kind of learning. It is a reactive kind of learning, involving the acceptance by the child of someone else's goal. It is social learning which also depends upon consensus

---

2. Amiria Johnson, Sally Jackson, Patricia M. Buckfield, Geraldine McDonald and Mary Roberts give a telling description of young 'supervisors' in 'Special Needs Group', in *Communication: Children with Special Needs*, Wellington Postgraduate School of Medicine, 1984, p. 239.

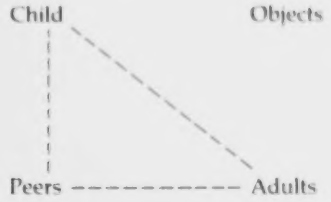
among those in any particular group about what the rules are. Note how, in the diagram, the adult may work directly with the child, and indirectly, through the behaviour of other children.



"You can take your apron off now, Kelly. Look, Adrienne's taken hers off."

We did not observe all children learning in this way. Some children obeyed the rules already and needed no reminding by either adults or children. Other children would take no notice of attempts to control their behaviour. What we recorded, then, were incidents in which adults or children wanted to change children's behaviour. Rules are also learnt through observation of other children, a self-initiated form of learning to be discussed later.

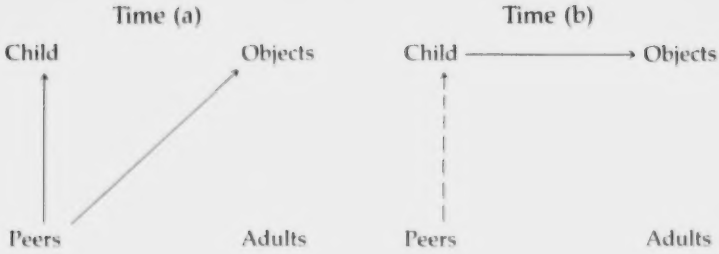
Therefore this kind of behaviour could have been recorded in one of the other categories according to its source. But it seemed more sensible to record the control of the child's social behaviour separately, especially since it is a major area of difficulty for some children. This kind of learning can still be plotted on the diagram of learning, but to save confusion it is best to plot it on a second diagram such as the one below.



In learning the rules of the preschool, the sources are the people in the preschool: the other children and the adults. The objects, however, are still there and may serve as objects of distraction. The child may rather stay on the swings than go to hear a story, for example. The objects may also be used to reject attempts by others to control a child's behaviour. A child may shovel sand out of the sandpit to show that he or she refuses to accept the rule that sand is to stay inside the pit.

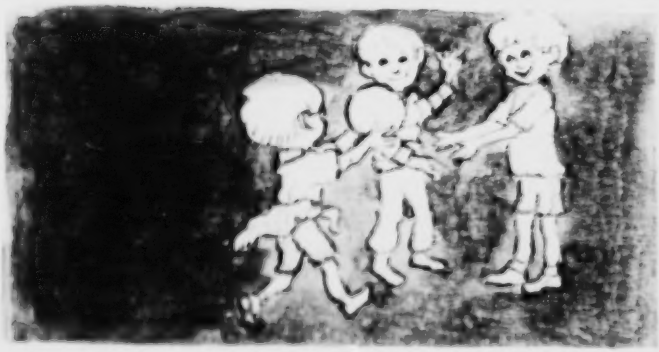
Observation of Other Children

Children in preschools are able to observe the activities of both children and adults. It was common to see children standing still looking intently at what other children — less frequently adults — were doing. Indeed, we recorded many instances of children gazing in this way and, later, going away alone to try out the activity. We did not see all children using this method of learning but some used it a lot. One young deaf child approached each activity by standing alongside the other children and gazing steadily at what was going on, as if he was sizing up the situation. As soon as he had grasped the principle, he took part in the activity himself. Fifty-eight children were 'observers' and this was the fourth most common mode of learning. The configuration is shown in the following time sequence:


Time (a)
Child
Objects
Peers
Adults
Time (b)
Child
Objects
Peers
Adults

Time (a)

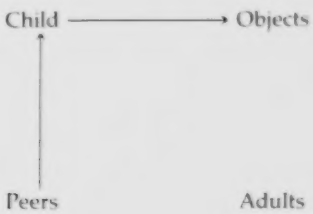
Time (b)



The target child is influenced not by the play objects as such but by what he or she sees other children doing with the play objects. It is how they use these objects that results in the target child's subsequent actions. This response is not a result of orders, instructions or suggestions from someone else, or a response to the attractiveness of objects, but involves an understanding of what other children are doing and a desire to do it too. I thought for some time about the best way to put this in diagrammatic form, but in the end I considered that there were really two stages: (a) when the child observes and (b) when the child acts. If we concentrate on the observation phase, the child is clearly receiving information, 'know-how' or understanding about a global process from other children's actions or actions on objects. If we concentrate on the acting phase of the event, I think that dotted lines best express the configuration. The pattern is transformed. 'Observation', as described here, is akin to 'imitation' and 'modelling', emphasizing the child's understanding of an activity as well as the source of information.

Responding to Other Children

We took this category to be responding to instructions to do something constructive, such as digging a ditch in the sandpit; or responding in the context of communal games with blocks and trucks, or to 'pretend' games in the family corner. The category did not include responses to simple instructions, such as 'Go out' or 'Go away'. Instructions from children to do something constructive are the kind that emerge in co-operative play, and since this is an advanced form of play, it is not surprising that we noted fewer examples of responses to children than there were responses to adults. Forty were recorded. The learning configuration is:

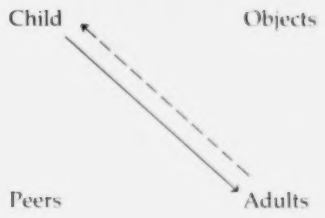


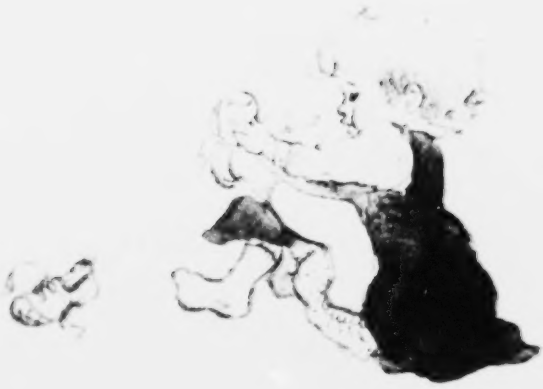
"Put your baby to bed now, Fiona. It's time for her to go to bed."

Other children act on the target child to get him or her to act on objects, taking objects in this sense to include both inanimate objects and other children treated as objects. For example, the child tucks another child into bed, or gets into bed him-herself (the child is its own object).

Asking Adults

There were comparatively few examples (27) of children asking adults how to do something. This active form of learning requires advanced language skills, and a child must be able to plan its actions and be sufficiently conscious of this plan to be able to formulate a question. For these reasons, it is a comparatively rare behaviour among children of this age, with or without handicaps. The configuration is as follows:





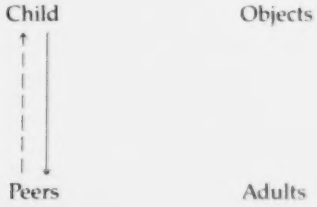
"Mrs Wilson, how do I do up my shoes?"

It involves verbal interchange and negotiation. The child first acts upon the adult by asking for assistance, and the adult responds by means of actions and/or verbal explanation or instruction. The child may then act upon peers, or objects, or adults, but the point is that the child has learned from an adult what to do (at least in a rudimentary sense) in advance of doing it, rather than in the process of doing it.

Asking Children

There were only 12 incidents observed in which children asked other children for instructions or explanations about how to do

something. No child was observed asking an adult for instruction on one occasion and on another, asking a child. It was either one way or the other. The configuration is:



"How do we dig the tunnel?"

These 7 ways of learning, then, tell us about the environmental sources of information or 'know-how', what we have earlier called the trigger factors. The checklist tries to capture instances of this process in action. What we observed was the end point of the process, and we assumed that forms of behaviour, such as a freshly observed success in reaching a particular goal, showed that something had been learned from environmental sources of information. We also observed who initiated the event and whose goal therefore directed the child's behaviour.

Disabilities and Ways of Learning

Although 138 special group children were observed there was no information available on disability for one of these. The child does not appear in the calculations in the tables. Table 3 gives, for each category of functional disability, the proportion of children who showed evidence of learning in the three most common ways of learning.

It can be seen that a disproportionate number of the emotionally disabled (e.g., the very frightened and the hyperactive) were not observed learning through the use of objects. Our observations showed that such children either avoided approaching the equipment or deliberately knocked it away. It can also be seen that both the intellectually and the socially disabled groups were less likely to have been seen learning by observation of other children than were the children in the physically and the emotionally disabled groups.

Some children were observed for longer times or more often than others. This increased the opportunity to observe ways of learning. Our experience suggested that, by and large, children observed more often were seen to use their favoured ways more frequently, rather than to increase the ways in which they learned.

The range in the sources of learning which each child was observed to use was from 0 ways of learning to 7 ways, but most of

Table 3
Ways of Learning in Relation to Functional Disability

Sources of Learning	*Children with Disability*								
	Physical		*Intellectual*		*Social*		*Emotional*		*Total*
	(N=34)	*%*	*(N=64)*	*%*	*(N=19)*	*%*	*(N=20)*	*%*	*(N=137)*
Responding to an adult	27	77	56	87	14	74	16	80	113
Interaction with objects	28	80	48	75	16	84	9	45	101
Observation of other children	16	46	23	36	6	32	12	60	57

the children (80 percent) made use of 2, 3 or 4 ways of learning in the preschool (See Table 4). The most usual combination was responding to an adult together with interaction with objects but there were many variations. One deaf girl, who could lip read, was not observed learning from direct interaction with objects at all. She spent her time observing others and asking the special group teacher for help before she acted.

Table 4
Number of Sources of Learning Used by Mainstreamed Children

Number of Sources	*Number of Children*
0	3
1	7
2	49
3	41
4	21
5	6
6	8
7	3
	138

Why should there be variation in the ways of learning? Here are some explanations. Learning from objects and from adults are ways of learning that appear early in a child's development. However, preference for observation as a way of learning, tendencies towards conformity, and preferences for responding to adults or children cannot be explained solely on developmental grounds. They may be a matter of personal style, they may be the result of the ways in which the child had previously been taught, or they may be the result of particular cultural experiences. Children, with or without a disability, who have been taught by one adult will probably, in other settings, look to other adults to learn from, and may be less secure with children. I observed a Down's Syndrome boy, brought up in a large family, who could kick balls and catch them. He also organized other children into playing ball games, even though the other children were not very skilled and he had to show them how

to play. He rarely sought help from adults and when upset, he stood at the far end of the outdoor space looking at the other children and howling in protest.

There are certainly variations in the ways in which children learn. What should teachers do about this variation? Teachers might note that there are at least 6 different ways of learning (7 if social rules are included) based on environmental source or agency. This offers a variety of ways in which teachers can get through to children. At the present time, the most favoured method is an adult instructing a child and hoping for a response. If this method works, well and good. If it does not, then teachers might encourage children to watch the other children very carefully; or teachers might speak on behalf of the child and ask other children how to do things. Teachers might consider trying to increase a child's ways of learning so that he or she can take full advantage of the preschool environment. Indeed, many of the teachers observed in the study did act in this way.

Implications for Mainstreaming

It is not essential for young children to be able to learn in all the 7 ways in the checklist. But to get the most from mainstreaming, children should be able to learn:

(a) in a self-directed way through interaction with objects;

(b) as a result of an adult's help and instruction;

(c) as a result of the example of other children and their oral (or signed) instruction.

All of these are equally important and together they add up to the model of learning outlined.

Teachers should have information about children's modes of learning, that is, the ways in which they take advantage of the preschool or classroom for learning. What a teacher does about

this information is then a matter for her professional judgement. For example, a child who spends all her time by herself playing with objects almost certainly needs to be encouraged to work with adults and with children. On the other hand, if that child is desperately frightened of strange adults, it is probably best not to use a one-to-one situation with an adult teacher, but to determine in what situations the child relaxes sufficiently to be able to take advantage of what the preschool has to offer.

Although there is no formula that can be used, knowing a child's preferences for learning can help a teacher decide whether to try extending the child's preferences or whether to make better use of the child's established methods of learning. In my visits to preschools I saw many instances in which teachers used a child's customary preferences (e.g., to sit in the sandpit and bang a spade up and down for lengthy periods) to encourage the child to use the spade more constructively, as in digging. In other instances teachers said things such as, 'She's been painting by herself for half an hour; I'd better see whether she'll join in with music.'

The teachers were observed using varied approaches according to a child's circumstances. Despite this, when they were interviewed they invariably said that they thought they should be doing more one-to-one work with the children. Certainly some of the special group children would have benefited from more adult tutoring on a one-to-one basis, but other children showed an over-dependence on adults and probably needed more help with skills that would ease them into children's groups. Yet other children seemed to need a personal hiding place with some challenging toys until they had marshalled a little more courage.

One thing with which special group teachers are familiar is the invisible string phenomenon. A particular child may follow closely behind the teacher, moving only when she moves and stopping when she stops — and occasionally failing to stop and walking on to her heels. While a child is so closely tied to an adult there are many other activities that he or she cannot take part in. It is only as the string is gradually lengthened that the child increases its range, and ultimately one hopes that the invisible string will be severed, releasing the child to a full range of learning opportunities.

Knowledge of a child's ways of learning can lead to a two-stage approach to teaching in mainstreamed settings, which can be summarized as follows:

(a) Determine the ways in which particular children learn in the preschool environment.

(b) Base any intervention treatment on knowledge of how the child customarily learns, as well as on knowledge of the child's disability and how the disability affects the learning mode.

This approach offers no ready-made answers and one should not assume that the ways of learning represent fixed abilities or learning styles. A child's sources of learning may be restricted simply by the child's lack of confidence.

Discussion

A number of general things were suggested by our observations. 'Gazing' or prolonged observation by a child seems most likely to be followed by new action in particular kinds of settings, such as climbing ladders, jumping off boxes and other 'daring' activities. Although several children may be taking part and queuing up for turns, climbing ladders and similar activities are not group activities. It is quite usual and accepted for a child to climb alone. Dancing and music are rather different and are often organized by the teacher or supervisor as group activities. Although one can observe individual children — especially boys — giving creditable performances of break dancing to sounds from a gramophone record, dancing is normally suggested by the teacher and performed in a group. Therefore, children may observe this as a group activity and are not likely afterwards to practise it alone.

The social rules of the kindergarten or playcentre are learned through verbal instructions from adults and children. They are not a consequence of the properties of objects. In learning these rules a child may observe what others do in response to an adult's command, but the verbal command generally comes first somewhere in the order of events.

Interaction with objects can lead to learning when children play with objects which can be manipulated to produce a result, such as occurs when water is poured from, and into, containers to control the level, or dough is rolled to change its shape, or formboards and jigsaws are completed, or pedals are pushed to make a tricycle move, or blocks arranged to build a bridge. All these are kinds of

activities in which a series of changes in a child's behaviour can frequently be observed. Another advantage to the observer of this kind of activity is that the observer often knows from the object what its goal is meant to be – a tricycle is to ride, and a puzzle is to match. In other instances the goal can be judged from what the child says, for example, 'I'm building a bridge', or 'I'm making it full'. Then the observer must ask two questions, 'Has the child succeeded at least in part?' and 'Is this a new achievement?' As suggested earlier, the answer to the last question may come from the child's reaction to the results of his or her action or from the report of adults who are familiar with the child's behaviour.

Learning from the instruction of an adult is, once again, more likely to be observed in some settings than in others. Adult 'instruction' accompanies many group activities in the preschool, such as music sessions, story reading and group activities outdoors. Adults seldom 'instruct' children who are engaged in fantasy and pretend play, although they may themselves join in. Adults seldom offer instructions regarding how to play with water or how to climb frames. In these settings their 'instructions' often have to do with eliciting orderly behaviour rather than task performance.

Children tell other children how to do things when they are involved in co-operative play and when they see another child having difficulty with something they themselves can do. Children ask others how to do things when they are aware that there are rules and procedures to be followed but they do not know the exact ones; or when they have a conscious goal, for example, feeding a guinea pig, and they think that another child knows how to do this. Children will also sometimes ask adults how to name an object, or how to say a word.

I have talked about configurations of sources of learning, and about the different patterns that emerge as the child seeks information from different aspects of the environment and adapts his or her behaviour in the light of this information. Earlier, I mentioned that the choice of method was related to the particular stage of a child's development, to cultural factors, to individual factors and to particular disability. In this present discussion yet another dimension has been added, showing how the separate modes of learning are often mapped on to particular activities and situations, so that learning from an adult generally occurs with respect to certain activities in the preschool and certain aspects of these activities.

For example, a teacher or supervisor will get children ready for a trip outside the preschool by outlining the procedures the children are to follow. In many other activities detailed descriptions of what to do are not required.

This discussion is presented as a guide for helping teachers and others to interpret their observations of young children. It is to alert observers to the idea that forms of learning differ according to activity, according to individual child, and according to particular source or sources of learning. Finally, the model of learning used in the study always included the four elements of child, object, adult and peer. Even when the configuration linked only two of these, all elements were present, the human agencies forming an audience and the objects representing an environment of challenges and choices.

It would be useful to make a study which looks at the frequency with which children use the different environmental sources for learning. An even more useful project would be to identify and to develop methods of teaching children in mainstreamed settings which make conscious use of one or more of the different sources and configurations for learning set out in the model used in the research. This would involve a systematic examination and assessment of the objects, the peers, and the adults in relation to target children, and then an analysis of combinations of these. A photographic record of children in various learning situations would be particularly useful.

The Running Record and Learning Event Checklist

In this section I shall outline how to use the running record and Learning Event Checklist. A revised version of the form used in the study and examples of completed schedules appear on pages 43-45.

Instructions for Use of the Learning Event Checklist

First, write down a brief description of the child if he or she is unfamiliar to you; otherwise you may not recognize the child at a subsequent observation. Children have a habit of shedding jerseys and cardigans during the morning.

You can observe one child or several. Use a separate sheet for each child.

Observe episodes of behaviour, such as the time which a child spends painting at an easel. When the child leaves for another activity, begin observing another child or simply have a break from observing.

Looking for learning events takes practice and it is important not to over-interpret what you observe. If you are not sure whether or not the child has learned anything in a particular episode, do not record it in the checklist. Teachers often feel they are 'failing' the child or not giving the child a 'good mark' if they do not record that the child is learning. Not so. The aim of this checklist is to record accurately as a basis for making professional decisions about the child. For any one child, learning events may be either frequent or comparatively rare during the course of the morning.

All learning events recorded must be supported by evidence from the running record. If you put a ring around 3 in the checklist (Child responds to another child's instructions), then the running record must record what the other child said to the target child and what subsequent behaviour that child displayed.

There should be a minimum of 6 observations over the course

Name:

Age:

Disability (if any):

RUNNING RECORD AND LEARNING EVENT CHECKLIST

TIME (at beginning and end)	DESCRIPTION OF EVENTS	CODING

Put a circle around a number if behaviour observed matches the criteria

Put the criteria number alongside the description in the running record.

1. Child observes another child/ children and later reproduces a similar action or activity.
2. Child asks another child for instructions.
3. Child responds to another child's instructions.
4. Child asks an adult for instructions.
5. Child responds to an adult's instructions.
6. Child learns through interaction with objects without instructions.
7. Child learns social conformity.

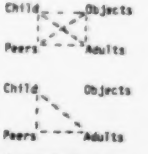
Summary

Number of learning events:

Total observation time:

Types of learning events:

Fill in the configuration:



Social Conformity

Name: George

Age: 4.6

Disability (If any): Avoids social contact

RUNNING RECORD AND LEARNING EVENT CHECKLIST

TIME (at beginning and end)	DESCRIPTION OF EVENTS
9.40	Turned away from me and hid his face against wall. 9.43
10.17	At grain tray. Pouring grain into hopper which makes a wheel turn. 10.20
10.32	At grain tray. Teacher asks if he has had morning tea. Says no. She suggests that he wash his hands and go to morning tea. He takes no notice. 10.34
10.43	Grain tray. Pouring grain into hopper. I join the group. He does not move away. I ask him a question. He looks at me and says "yes". Some time later he appears to comment on his actions. He points to the 'wheel' and says something that sounds like "Er, dop (drop?) it." 10.46
10.50	Grain tray. Stares at children doing threading. Stands at grain tray. Then gazes at the boys in the train who wave goodbye. He does not respond. He points and makes a vocalization. The pieces of plastic used for threading are blowing around the kindergarten. (He seemed to be telling us.) 10.55
11.05	Playing alone in block corner. Puts blocks together to make a ramp. Assembles three pieces to make a train and driver. Reproduces correct relationships. (6) Orientation is right. Sits alone and looks at other children. Luise joins him. He does not move away. Increases his activity - as if showing Luise. He makes train noises and says, "Trains, train." 11.12
11.25	In block corner. I sit down beside him. He begins to talk to me about the "station". - "Dere stars." Points. "Star, star, star". I give him a parking stop sign. He says, "Star - two star." Chatting away. Uses tiles and says, "I making ..." Speech not clear but knows some words and using 2-word sentences. 1.27
11.30	Obeys teacher who shows him how to wash his hands. (5) Seems to have settled at last. Teacher says he has "grummets" in his ears - may be causing pain. Mat - sitting at very back not taking much notice but joins in and tries hard with song about butterfly with actions. Corrects his hand movement when he doesn't think it is correct. 11.56
	Comment: Behaviour at grain tray consisted solely of action of pouring.

CODING

Put a circle around a number if behaviour observed matches the criteria.

Put the criteria number alongside the description in the running record.

1. Child observes another child/children and later reproduces a similar action or activity.
2. Child asks another child for instructions.
3. Child responds to another child's instructions.
4. Child asks an adult for instructions.
5. Child responds to an adult's instructions.
6. Child learns through interaction with objects without instructions.
7. Child learns social conformity.

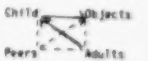
Summary

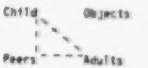
Number of learning events: 2

Total observation time: 31 mins

Types of learning events: 5, 6

Fill in the configuration:





Social Conformity

Name: Philip

Age: 4.1

Disability (if any): Intellectual retardation

RUNNING RECORD AND LEARNING EVENT CHECKLIST

TIME (at beginning and end)	DESCRIPTION OF EVENTS
9.15	Standing staring at 2 boys on top of cable drum. They are telling him not to come up. Philip holds a rope in his hand. Teacher goes up and suggests that the two boys walk across a plank to a second drum. They refuse. Philip says, "At the beach". Teacher asks about rope and whether it is tied up to a boat. Philip runs off stiff-legged. Stops a mother who is pushing her child in a trolley. Holds out his hand. Mother pretends to pay a toll fee to pass by pressing the palm of Philip's hand. Later two girls approach him and he holds out his hand again. They pretend to give him something. 9.21
9.50	Philip standing near a fort above the ground. A child inside says, "Climb up that way, eh." Philip says "Yes" and climbs up a net to get to the fort. Boy pushes him down into net. Philip says, "Oh, don't. I going fall down." Other children, "Come up Philip, come up Philip. Not going to push him." Philip tries but others kick him off. He hits out at their feet. Screams, throws books at them and then settles back in net. Another boy takes the books from underneath him. Leaves fort. He is outside and all other children are inside. Goes away, stands and stares. 10.01
10.30	On edge of sandpit. May be gazing at another child. Pushes truck out of sandpit. Fills it with sand. Another child brings his truck and they run off together. 10.37
10.55	At climbing frame. Stands back, points and says something to other boys who take no notice. 10.56
11.50	Tries to help a group of boys move a long pillow. Doesn't manage the synchronization required. Gives the pillow a slap and walks away. 11.52
11.55	Teacher reading a story to a group of children. Philip at back but not looking at the book. 12.00
	Comment : Kept trying to join in with other boys in their activities.

CODING

Put a circle around a number if behaviour observed matches the criteria

Put the criteria number alongside the description in the running record.

1. Child observes another child/ children and later reproduces a similar action or activity.
2. Child asks another child for instructions.
3. Child responds to another child's instructions.
4. Child asks an adult for instructions.
5. Child responds to an adult's instructions.
6. Child learns through interaction with objects without instructions.
7. Child learns social conformity.

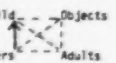
Summary

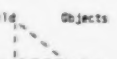
Number of learning events: 1

Total observation time: 32 mins

Types of learning events: 3

Fill in the configuration:





Social Conformity

of a morning, but you may make more. If you want to compare one child with others, then the same number of observations should be made for every child. Adults to whom the child is familiar can be asked whether the behaviour has been previously observed. Teachers often remember an occasion which led to the present behaviour.

This is not an instrument designed to discover 'facts'. It is an instrument designed to raise the awareness of teachers, parents, and teachers in training. The results are to be discussed and thought about. The use of the running record is recommended as an opportunity for teachers and others to take time to see whether children take advantage of the educational environment and exactly how they do this.

Examples from the Running Records

The following examples show the kind of decisions we made.

Geoffrey (cerebral palsy)

Children on the mat. 'Jinglebells' — teacher playing music and the children singing. Geoffrey looks at the other children waving their hands in time to the music. Pauses. Waves his own arms in a manner similar to the other children. Manages with some success to control his muscles in order to follow the rhythm. [This episode was coded 1 (Child observes another child/children and later reproduces a similar action or activity). Unless Geoffrey had seen the other children it is unlikely he would have waved his arms. Note too the effect of the setting provided by the teacher and the possible support of the rhythmical music.]

Geoffrey finds it difficult to manipulate objects and to learn through this source of information because his hands shake and he has difficulty grasping things. At morning tea time the teacher holds him and helps him to walk to the table. The special teacher tells him to pour the milk into his cup. He tries to obey her but his control is not good enough to allow him to succeed. The teacher helps him to pour by taking the weight of the jug, and with this assistance, he manages to tip it so that its contents land in the cup. [This episode was given code 5 (Child responds to an adult's instructions). Note how the verbal instruction was accompanied by physical assistance from the teacher.]

Roger (intellectually handicapped)

Playing with a ball. Another child is organizing him and giving him instructions. Child says, 'Kick it.' Roger drops the ball he is holding

and attempts to kick it. Other child says, 'Kick it, Roger.' Roger's toe misses the ball. Keeps trying to kick the ball on the ground. Laughs. Roger's toe finally connects with the ball and it travels a short distance across the grass. [Coded 3 (Child responds to another child's instructions). Roger was learning to kick a ball. Possibly this could have been 6 (Child learns through interaction with objects without instructions), but it seemed that the other child's instructions were a key factor in keeping Roger on target.]

Janet (intellectually handicapped)

Janet is sitting at a table with the head teacher on one side of her and the special group teacher on the other. The special group teacher asks Janet to draw 'round and round'. The teacher tips the container of crayons so that Janet can see them. Janet picks out a crayon and then, with the teacher holding her hand, she draws round and round with the crayon on black paper. Janet then manages by herself. Janet stops what she is doing and touches the arm of the head teacher, possibly to draw her attention to the circles she has drawn. [This was coded 5 (Child responds to an adult's instructions).]

Priscilla (spina bifida, in a walker)

At table where a group of children are making prints using cardboard cutouts. Priscilla gets her walker close to the table. She is working by herself, although from time to time she watches the other children. She cuts out a shape from cardboard and looks at it. Pushes it aside. Cuts out another shape which looks like a four-pointed star. She picks up paint roller, puts it in paint tray without rolling it and presses it on star. Only a strip of paint appears on the cardboard. Puts roller in paint tray and moves it back and forth. Roller picks up paint. Places it on cardboard star and repeats action of moving roller back and forth. Thick paint covers star. Puts roller back in tray. Picks up square of newsprint. Presses paper on top of painted star and bangs with palm. Lifts up paper and pulls away cardboard. Looks steadily at the pattern of paint on the paper. Moves her walking frame over to sewing and threading. [This was coded 6 (Child learns through interaction with objects without instructions). Priscilla appeared to initiate her own activity and to solve the problems through the experience of working with the materials.]

Brenda (visually impaired)

At construction table with a boy and a girl. Table covered with rods of different sizes and wooden circles and squares into which rods can be fitted. Brings dowels and rods very close to her eyes. Leans over the tray to select a rod. Teacher invites her to use an egg beater. She goes to the dough table. Teacher gives her instruction in how to turn the handle of the egg beater. Brenda says something to teacher — not clear

what was said. Makes the egg beater blades go round by turning the handle. [This was coded 5 (Child responds to an adult's instruction).]

Barbara (intellectually handicapped)

At table covered with construction materials. Stares intently as a boy makes a construction of rods and spools. He leaves the table. She tries to construct something herself. It is not an advanced construction but she manages to insert two rods into a spool with holes in it. (Coded 1 (Child observes another child/children and later reproduces a similar action or activity).]

Waterplay. Another child at trough. Barbara pours water into cans from a container with a spout. Holds tins up in the air and water comes out of holes punched in the bottom. Gazes at the effect. Repeats actions. Looks up. Says to teacher, 'Look at this.' Gets more cans. Puts them into trough. [Coded 6. (Child learns through interaction with objects without instructions).]

When other children start to dance Barbara is assisted to her feet by an adult. She is a bit like a puppet and only dances when she is controlled by the teacher, who attempts to move her by moving Barbara's arms up and down. [This was not coded as a learning event.]

Dean (some rigidity in his limbs)

Dean is a mature and well co-ordinated child despite the problem with his legs.

Threading plastic beads on wool. Copes well. He is with the head teacher and two other children. Responding to teacher when she speaks to him. He leaves the table and goes to play a collaborative game with two other boys. They are building a hollow tower out of blocks. Teacher asks him to put his arm down inside the block construction. He smiles, looks, but does not comply. Another boy repeats the instruction and Dean performs the action. He plays with the blocks, placing them carefully and being careful not to dislodge the blocks placed by the other boys. [This was coded 3 (Child responds to another child's instructions) because the child was engaged in co-operative play which involved taking the perspective of the other children and accepting their suggestions.]

Jennifer (hearing impaired)

There is often a fine line between a child seeking practical help to carry out a task he or she is already familiar with, and seeking advice or help in *how* to do it. The next episode illustrates this point.

At the collage table with a boy. Jennifer gazes steadily at what he is doing and makes an approach to him by holding a paint brush out to the boy. She goes briefly to painting easel. Gets a mother helper to

come with her to collage table once more. Points to collage. Mother helper gets her a cardboard container for holding eggs. Jennifer selects a paintbrush and paints the container very carefully. [In this episode we decided that Jennifer had learned from first observing the other child. When she sought help from the mother helper Jennifer knew what she wanted to do, and so we did not code her interaction with the adult as asking the adult for instructions about how to make a construction. [This was coded 1 (Child observes another child/children and later reproduces a similar action or activity).]

Next is a series of records of one child over a span of two hours. It can be seen that most of the episodes recorded did not give any evidence of learning events.

Martin (aggressive and unpredictable but not intellectually retarded)

9.40 In block corner. Playing alone but other boys around. Assembling Lego. Talking to himself.

9.45 At water trough pushing plastic boat. Making boat noise.

9.55 On climbing frame. Yelling. Leans over side. Yells at Zane. Hits out at him. On top of frame shouting. Violently shaking a wheel fixed on a pole.

9.57 Martin off frame. Goes to Zane and puts his arms round his neck. Pushes Zane away. Teacher approaches. Martin runs away. Teacher says, 'Martin, come here please.' Martin runs away to slide. Teacher speaks more firmly and takes him by the hand.

10.02 Martin has been told to stand at the door of the teacher's office as 'time out'. He stands behind an easel sucking his thumb. Teacher says, 'Have you had a think about why you shouldn't push people? No splashing water today.' Martin shakes his head.

10.30* Children sitting in circle. Teacher asks Martin to take the apples around the circle. He complies.

10.42 Goes outside. Fronts up to Zane, and putting two hands on his chest, pushes him over. Zane falls on to his back on the grass and bursts into tears.

10.55** At water trough with special teacher. Teacher asks him to give her various articles. He responds appropriately by passing her a funnel, a jug and a plastic container. He says, 'Look at ...', showing the teacher how the level of liquid goes down as it goes into a second container.

11.20 In block corner. Other children present but playing by himself. Some girls enter the block corner. Martin says, 'Get off.' He pushes

a car along a track made by other children. He does not help with making the track.

[Martin's aggression was concentrated on Zane, a smaller child. The teacher's effort to calm him down with 'time out' was not effective. He was not aggressive to adults, and showed signs of having learned to conform in the episodes in which he passed apples around the group* and in his session with the teacher at the water trough.** The starred episodes were both coded 7 (Child learns social conformity).]

Next is a series of observations of Miranda.

Miranda (social and emotional difficulties)

In the earlier part of the morning (the observations for which are not reported here), Miranda was observed learning in three different ways. It may be that she became tired as the morning progressed and so less capable of summoning sufficient confidence to take advantage of what the kindergarten had to offer. Miranda was very clinging and scarcely spoke during the course of the morning on which she was observed. She was judged to have difficulties of functioning in the social and emotional areas. The episodes below were made over a time span from 10.15 a.m. to 11.32 a.m. The observer did not note any examples of learning events during the observations recorded below.

10.15 In a large group of children. Children are playing percussion instruments (drums, shakers, sticks) as the teacher plays the piano. They finish the activity by marching out of the building and around a circular path while playing instruments. Throughout this, Miranda stands well back and stares.

10.30 Miranda staying very close to special teacher who leads her to an area where children are dancing with scarves. Miranda is persuaded by the special teacher to hold a scarf and to join in. Special group teacher passes Miranda's hand to another teacher who holds it. The teacher lets go of Miranda's hand. Miranda stops dancing.

10.50 Teacher initiates a game. One child is covered by a blanket as a screen. Other children hide their eyes. They have to guess who is hidden. Miranda seems to show more interest and stands within the circle. Does not make any guesses or otherwise participate. Seems more relaxed at end of this activity and runs to special group teacher.

11.15 Trailing around after special group teacher who says, 'You're my little shadow today, aren't you?'

11.22 Still trailing around after the teacher.

11.32 Mat time. Miranda standing outside the circle. Teacher trying to encourage her on to the mat. Miranda does not respond.

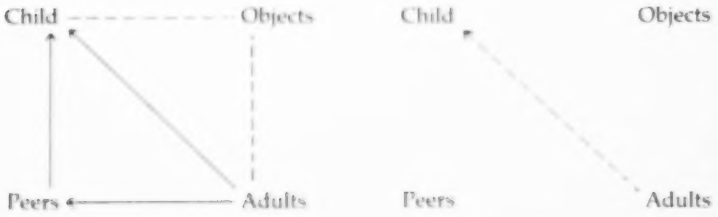
This record of Miranda raises a number of issues about judging whether or not learning has occurred. First of all the record is of separate episodes. Miranda was not observed continuously. No one could claim that no learning took place — that Miranda learned nothing. All that can be said is that, on the occasions observed, Miranda did not display any behaviour that agreed with any of the criteria for learning used with the checklist. Miranda was observed gazing at the children, but she was not later observed playing instruments or otherwise reproducing these actions. (She might have done so next week.)

She joined in only when supported by the teacher. Her actions of waving a scarf and moving around were ones that the observer judged she was already capable of performing. She was not, for example, physically disabled or slow in intellectual development. When the teacher stopped supporting her, Miranda stopped dancing. She later stood in a circle of other children but took no part in the actual activity. Later she simply kept as close to the teacher as she could, and during the group session on the mat she did not join in with any of the activities.

Analysis of Mat Time

The general results of the study showed that mat time was a time of particular difficulty for many of the special group children. During that time the children were typically all together sitting on the floor and facing the teacher. The activities included songs, stories, finger plays, puppets, 'news' told by other children, group games and information. On our model of learning below, this is a situation in which the adult is directing the activity, providing most of that information and, from time to time, expecting the children to respond in a particular way. All the other children are present and they must synchronize their responses. Therefore the child will have to observe the other children as well as the teacher. The objects of the preschool are still there but do not have the same power of distraction as they offer in a choice situation. Mat time does not offer choices, and hence it combines a necessity for a child

to understand 'instructions' (for example, the rules of a game), to obey these instructions, and to respond in synchrony with others.



Responds to an adult's instruction and Social Conformity
Observes another child/children

Mat Time

We cannot assume from a child's behaviour in free choice activities what that child will be like at mat time. Mat time is a different situation. The mat time situation is a harder situation than a free choice one. Therefore, if a child does not respond to adults in less constrained situations, then he or she is unlikely to respond to adults in a group situation. If the child avoids children in choice situations, then he or she is not going to suddenly change in a group situation. If a child usually objects to having his or her behaviour controlled, then, again, mat time will be no easier. But even if a child has been observed responding to adults, responding to children, learning through observation, and responding to requests to control his or her behaviour, the combination of demands at mat time, with the necessity *to understand and to obey*, may prove to be too much.

Observation may show that being with other children on the mat is daunting. For example, the child may run away the moment he or she sees the group. Therefore, it will be important to ensure that the child learns to tolerate smaller and less threatening groups. If it is the teacher's instructions that are intellectually too demanding, then perhaps a bit of individual coaching beforehand will help. Also, what the teacher says can be illustrated and made simpler. If the child can use observation as a source of learning, then he or she can be placed one row back from the teacher so that the child

in front can act as a model for responses. Simple refusal to comply with the demands of the situation, in contrast to lack of understanding, suggests that a programme of behavioural management may be needed.

Of course, teachers do many of these things intuitively. The learning model or checklist constitutes merely a framework to analyse learning situations, including mat time, systematically, both for the sources of learning and for the individual child's response to these. Ultimately, intervention to increase a child's capacity to learn from the preschool environment must be a matter for the professional judgement of the teachers or supervisors.

Conclusion

The study showed that most people involved in the special group scheme tended to think of intervention in a restricted manner. They tended to see the task as intervening in an individual child's development with goals derived from what 'normal' children of the same age could do. They also tended to see this as being achieved in one-to-one interaction with an adult.

The suggestions in this booklet do not negate this approach. Rather they expand it to wider aspects of the learning environment. The emphasis is on learning rather than on teaching, and on what an individual child *is doing* in relation to other children in the preschool, rather than on what the child *can do* in relation to norms of development. It is intended as a general approach to understanding children's learning and any difficulties they may have, as well as a guide to using the total environment for intervention. It was developed with the needs of teachers and parents in mind as a complement to clinical approaches. I suppose that it could be said to use the techniques of the whole-child approach familiar to teachers of young children, and to extend this to the special task of teaching a small group of children with varying disabilities within a normal preschool programme.

References

Donaldson, M. (1978). *Children's Minds*. Glasgow: Fontana/Collins.

Piaget, J. (1953). *The Origin of Intelligence in the Child*. London: Routledge and Kegan Paul.

Piaget, J. (1954). *The Construction of Reality in the Child*. New York: Basic Books.

Tizard, B. and Hughes, M. (1984). *Young Children Learning*. London: Fontana.

Vygotsky, L.S. (1962). *Thought and Language*. Cambridge, Mass.: M.I.T. Press.

Vygotsky, L.S. (1978). *Mind in Society*. Cambridge, Mass.: Harvard University Press.

People Involved in the Project

Project Director: Geraldine McDonald
Assistant Project Director: Raylee Johnston
Research Assistant: Sashi Meanger
Adviser: Amiria Johnson
Observers: Michelle Childs, Louise Biddick, Stephanie Frost, Hilary Wilson, Betty Clark, Joanne Adam, Jane Barron, Sue Skarsholt.
Advisory Committee: Elizabeth Beatson, Val Burns, Michael Cooper, Anne Fisk, Jo Kelly, Helen Stevens
Editorial Assistance: Pam Kennedy
Kindergartens in the pilot study: Cottle Kindergarten, Johnsonville Kindergarten, Tairangi Kindergarten, Moira Gallagher Kindergarten
Kindergartens used for training purposes: Newtown Kindergarten, Parnell Kindergarten, Redwood Kindergarten, Melville Kindergarten, Ranui Kindergarten, Helen Deem Kindergarten

Kindergartens in the study:

Wellsford Kindergarten
Birkdale Kindergarten
Highland Park Kindergarten
Te Atatu North Kindergarten
Milford Kindergarten
Murdoch Park Kindergarten
New Lynn Kindergarten
Oranga Kindergarten
St Christopher Kindergarten
Settlement Road Kindergarten
Homai Kindergarten
Bellmont Kindergarten
Brookfield Kindergarten
Cambridge Kindergarten
Western Heights Kindergarten
Brooklands Kindergarten
Hawera Kindergarten
Polson Park Kindergarten
Hokowhitu Kindergarten
West End Kindergarten
Rutene Road Kindergarten
Irongate Kindergarten
Brian Avenue Kindergarten
Moira Gallagher Kindergarten
Tairangi Kindergarten
Johnsonville Kindergarten
Cottle Kindergarten
Grove Street Kindergarten
Karoro Kindergarten
Hornby Kindergarten
Nuffield Kindergarten
Linwood Kindergarten
Rutland Street Kindergarten
Glenview Kindergarten
Brockville Kindergarten
Richard Hudson Kindergarten
Rachel Reynolds Kindergarten
Elson Lea Kindergarten
Waverley Park Kindergarten

Publication
Editorial: Fay Panckhurst, Production: Peter Ridder

NZCER